

ABSTRACT OF THE DISCLOSURE

A method is disclosed for accurately predicting the wet etch end points as a function of the temperature and concentration of the etching solution, as well as of the thickness of the film to be etched. This is accomplished by fitting an etch rate equation to the process of etching a film in terms of two constant parameters that are determined by one set of experiments performed on a given wet etch bench. Thereafter, the constants are used with the rate equation to calculate precisely the etch rate of a film, and then the etch rate is divided into a target film loss or a target film thickness to obtain etching time, or time to etch, which takes into account the variations in temperature and concentration, for example, of the acid in the solution. The resulting film either loses the specified amount of material, or acquires the specified thickness without incurring any damage, which is especially suited for sub-micron semiconductor technology where precise etching is required.